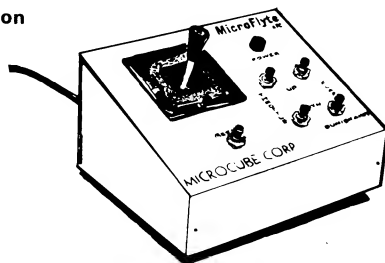


OPERATING MANUAL for

# ***MicroFlyte* ATC**

JOYSTICK and SOFTWARE DRIVER  
for "FLIGHT SIMULATOR II\*"

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**MICROCUBE CORP.**

PLUG INTO  
GAME PORT #1

## Joystick Functions

LEFT-RIGHT: COORDINATED RUDDER & AILERONS

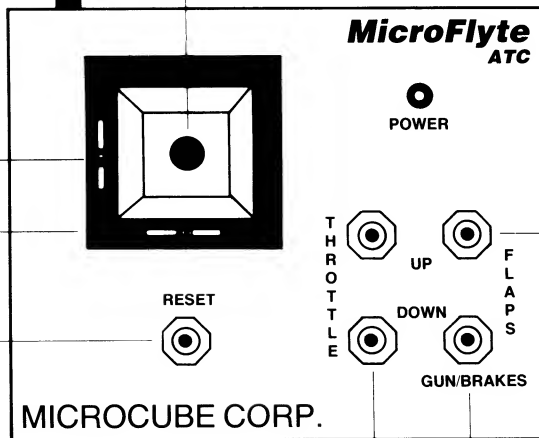
UP-DOWN: ELEVATORS - PULL STICK BACK - POINTS NOSE UP

PUSH STICK FORWARD - POINTS NOSE DOWN

ELEVATOR TRIM

AILERON TRIM  
(DO NOT USE)

PRESS TO  
INITIALIZE  
COMPUTER AND  
READ STICK  
CENTER POSITION



CONTROLS ENGINE RPM  
UP TO INCREASE  
DOWN TO DECREASE

FLAPS DOWN IN 10°  
INCREMENTS

GUN - WWI MODE ONLY  
BRAKES - STOP PLANE ON GROUND,  
AFTER LANDING AND MANEUVERING ON GROUND  
FLAPS - RAISES ALL THE WAY UP.

## **INTRODUCTION**

The MicroFlyte ATC Joystick is a unique product designed for use with the Flight Simulator II\* to give you accurate and proportional control. Most users find that in using Flight Simulator, it is very difficult and unnatural to input flight commands in real time from the keyboard. The speed with which the control inputs are able to be entered by either keyboard or by the switch type joysticks is also very limited. These limitations tended to degrade the realism and enjoyment that this incredible simulation design is capable of providing. Thus, the primary consideration in the design of the MicroFlyte Joystick was to allow the operator to move the main flight controls of the Flight Simulator programs in such a manner that the position of the aircraft control surface as reflected by the display screen instrument panel will move with maximum resolution and exactly follow the position of the user's control sticks.

Using the Microflyte ATC Joystick, the user will be able to "fly" the Piper Archer II aircraft with little keyboard interaction. The following controls are available on the MicroFlyte ATC Joystick:

- |                       |                                 |
|-----------------------|---------------------------------|
| 1) THROTTLE - UP/DOWN | 4) FLAPS - UP/DOWN              |
| 2) BRAKES             | 5) ELEVATORS - UP/DOWN          |
| 3) GUNS (WWI MODE)    | 6) AILERON, RUDDER - LEFT/RIGHT |

With these functions, you will be able to take off, maneuver in the air, and land with little or no difficulty, and after only a short time of practice.

## **FEATURES OF THE MICROFLYTE JOYSTICK**

- 1) Use with Flight Simulator II using Joystick Driver Disk.

2) Future Flight Program Drivers will be available in the near future for Jet, F15 Strike Eagle and others.

3) Use with User generated BASIC programs - routines, examples, addresses, etc.

4) Use with User generated assembly language programs - routines, examples, addresses, etc.

## **OPERATIONAL CHARACTERISTICS**

**A.** When you chose to boot our disk and follow by booting your FSII by subLogic, the screen will appear in Flight Mode as usual. By pressing RESET button, the sticks will be calibrated and a physical "dead spot" established at (and immediately surrounding) the stick's centered position. From now on, when the sticks are in center, they will be inactive and analogous to a centered or "hands off" control yoke. The ailerons will be "centered" and the elevator will be positioned 2 steps up which is a normal rate of climb (100 mph and 800 feet per minute rate of climb). This is the same as setting the elevator trim to take off position. As you take off, you can "rotate" the nose up by pulling back on the stick as it crosses about 80 knots airspeed and by immediately releasing the stick (letting it center) the simulator will "settle" into a climb.

By pushing the "pitch trim" forward on the stick far enough, you can roll the nose down (the trim must be moved far enough to move the pot out of the "dead spot"). Once you have rolled the nose down and you see results, the joystick centering will actually be feeding "trim" or subLogic "micro-adjust" resolution to the simulator which allows fine trim to be set up for "cruise". You can give additional range to the trim adjustment by rolling it part of the way back or forward and then pressing RESET...try this!

The preset take-off trim is useful in a lot of areas:

1) Simply back down the throttle to around 1550 or 1650 RPM (depending on your altitude) and cruise with the trim in it's original take off position. This is a slower flying condition slightly nose high but convenient in the pattern around an airport.

2) If you leave the trim in it's take-off position and cut the power, you can do an "approach let-down" at around 100 knots.

3) With no power and 30 degrees (two notches) of flaps the "take-off" trim position gives a nice glide for final approach and you can ease back the stick for a normal "flare" upon touching down.

**B.** The fine trim which is associated with the aileron movement need not be used at all except to give more physical stick range to the left or right (some computers might require this to make the stick range appear more balanced). We have found that (unless you are engaged in combat) if you need to push the stick full left or full right while flying, you are probably already in more "trouble" than the real thing could get you out of!

**C.** When you boot our disk, the keyboard keys for up, down, right, and left are only used to select view. They will not interact with the joystick yoke.

**D.** If you press RESET on the joystick and pull back on the joystick simultaneously and then release RESET with the stick pulled slightly back you will find that when you release the joystick the new calibrated center has changed. If you experiment with this technique, you can find a physical placement of the stick where, when it is released, the pitch indicator on

the screen will be centered.

**E.** The above technique will be necessary to center the elevator position prior to using the "slew" mode. Otherwise the pitch will be preset to "take off" position and you will always be slewing to the "south" at a moderate rate. Be careful not to slew too fast using the joystick, or the entire program will bomb out and have to be rebooted.

**F.** The throttle switch works in it's conventional manner. However, the switch for "flaps-up" also applies the brakes if held down, and can also be used for the machine gun in the WWI simulation.

**G.** Note: When exiting the WWI game to the other normal flight modes, the FSII completely reboots the disc. To include the MicroFlyte joystick driver capability, our disk will also have to be rebooted.

## **OTHER MODES OF OPERATION**

The MicroFlyte joystick can be used for many applications in your own programs by using the normal applicable routines to scan pot A or B on port #1 where:

Pot A = Left/Right  
Pot B = Down/Up

Stick Switch 1 = Throttle Down  
Stick Switch 2 = Throttle Up  
Stick Switch 3 = Flaps Up  
Stick Switch 4 = Flaps Down  
Fire Button = Reset

## **INITIAL CALIBRATION**

All computer hardware may not be identical so an initial calibration of the Joystick may be required for your machine. To determine if this is necessary, perform the following steps. In normal mode with Flight Simulator II booted up and sitting on the runway ready to fly, push and release the RESET button. The elevator trim indicator should move up about 2 steps and the ailerons should be centered. Now the control joystick should move the elevator symmetrically up and down, and the ailerons left and right to the approximate limits as viewed on the control indicators. If this does not occur properly on both axes, then the stick needs to be calibrated for your machine.

Calibrate one axis at a time by first moving the trim tab for that axis in one direction slightly. Press the RESET button and test the operation of the unit. Repeat until optimum.

## **ABOUT THIS PRODUCT:**

Much time and care has been devoted to ensure that this product does not subtract from the realism or performance of Flight Simulator II by subLogic. Rather it was designed to enhance the "feel" of guiding the simulator by using a high quality pot type joystick.

The use of this product will not alter your Flight Simulator disk by subLogic Corp. Simply choose not to boot up our disk and you will find your Simulator will perform as usual with conventional switch type joysticks.

The MicroFlyte Joystick is a high quality open gimbal joystick with virtually no physical backlash. It is made in the USA for MicroCube Corp. by Ace R/C, Inc. in Higginsville,

Missouri. The software driver which accompanies this product is produced by MicroCube Corp. in Leesburg, VA. The joystick takes advantage of the proportional pot scanning circuits that are present in your home computer.

The MicroFlyte software writes a short overlay when used with FSII and replaces some joystick instructions with pot scanning instructions. This frees the switch inputs to port A for use with the switch functions which allows the use of a single joystick cord.

NOTE: The MicroFlyte Joystick pots contain a cleaning lubricant which is designed to keep them accurate and clean as you use them. Not using them, however, can allow this fluid to build up around the centered position. At times, this can cause operation to appear erratic near the centered position. Sometimes this can be aggravating. The best cure for this is to simply wiggle the stick around before you fly from one day to the next. If you forget and you notice erratic control as you fly, you can simply press "P" for pause, move the stick back and forth and up and down a few times, and press the "P" again to resume from where you were.

Any comments you have regarding this product are welcome and should be sent to:

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LEESBURG, VA 22075**

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